



REPORT

# 2025 State of Continuous Testing

Transforming Quality Assurance  
Through Innovation & Strategy



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# 2025 State of Continuous Testing Report: Your Guide to Navigating the Evolving Software Testing Landscape

The software testing industry is undergoing a transformative shift. As organizations face the challenges of accelerating development cycles and mitigating risk, quality has become a defining factor that separates market leaders from competitors.

Artificial Intelligence (AI) is reshaping testing strategies, introducing transformative approaches that are fundamentally changing expectations. These developments make it more difficult than ever for teams to ensure their testing strategies keep pace with rapid industry evolution.

Perforce's annual State of Continuous Testing Report is your essential guide to staying ahead. Built on accurate, actionable insights, this report delivers a comprehensive view of testing trends to ensure your team is strategically positioned in today's dynamic landscape.

## What's in the 2025 Report?

This report provides strategic insights to help teams overcome critical challenges, including scaling automation for greater efficiency, leveraging AI to reduce manual effort and accelerate defect detection, and meeting evolving global standards for accessibility and compliance.

- **WHO:** Hundreds of testing professionals participated, representing roles such as QA/Dev Practitioners, DevOps Managers, QA Managers, QA Leads, and VPs of Testing.

- **WHAT:** Topics covered include test automation, open source tools, AI in testing, accessibility, and compliance.
- **WHEN:** The report reflects experiences of testing teams in 2024 and provides insights to guide 2025 strategies.
- **WHERE:** Respondents from North America, EMEA, and APAC ensure a globally representative perspective.
- **WHY:** Perforce's commitment to advancing the testing and DevOps community drives this report, providing a roadmap for success in a rapidly changing software landscape.

## Key Takeaways

- **AI-Driven Testing is Reshaping Strategies:** Nearly 60% of respondents expect AI-driven testing to influence their 2025 plans, signaling a major industry shift.
- **Test Data Management Challenges:** Manual test data management remains the biggest bottleneck for teams, highlighting the need for scalable, automated solutions.
- **Automation is Dominating Testing Practices:** Over 80% of respondents adopted automation in 2024, driving efficiency and faster delivery cycles.
- **Reducing Risk is a Top Priority:** Security and compliance concerns have moved to the forefront, reflecting a broader focus on safeguarding data and maintaining regulatory standards.

Perforce's suite of quality solutions empowers QA teams to meet these challenges head-on, with AI-powered efficiency, scalable cloud adoption, and comprehensive testing capabilities that drive innovation, mitigate risks, and deliver measurable outcomes.



Stephen Feloney  
VP of Product  
Perforce Software

## Message From Perforce

The rapid pace of digital transformation has made quality assurance (QA) an essential driver of innovation, operational efficiency, and customer satisfaction. QA teams are no longer just enabling reliability—they are shaping the future of software development.

“Continuous testing is the foundation of quality assurance in today’s fast-paced, ever-changing environment. This report is more than a snapshot of industry trends; it is a testament to the resilience, adaptability, and ingenuity of QA professionals. At Perforce, we are proud to empower this community with the tools needed to innovate, accelerate, and deliver excellence.”

—Stephen Feloney, VP of Product, Perforce

The State of Continuous Testing Report highlights the opportunities and challenges facing today’s QA teams:

- **AI Adoption:** Nearly 60% of respondents believe AI will significantly impact their 2025 strategies, underscoring the importance of targeted investments and upskilling.
- **Cloud-Based Collaboration:** With 57% of respondents adopting cloud-based solutions, distributed teams are scaling testing efforts globally and achieving seamless collaboration.
- **Accessibility and Compliance:** A growing emphasis on inclusivity and regulatory adherence reflects the shift toward user-centric design and organizational accountability.

At Perforce, we recognize these challenges as strategic imperatives.

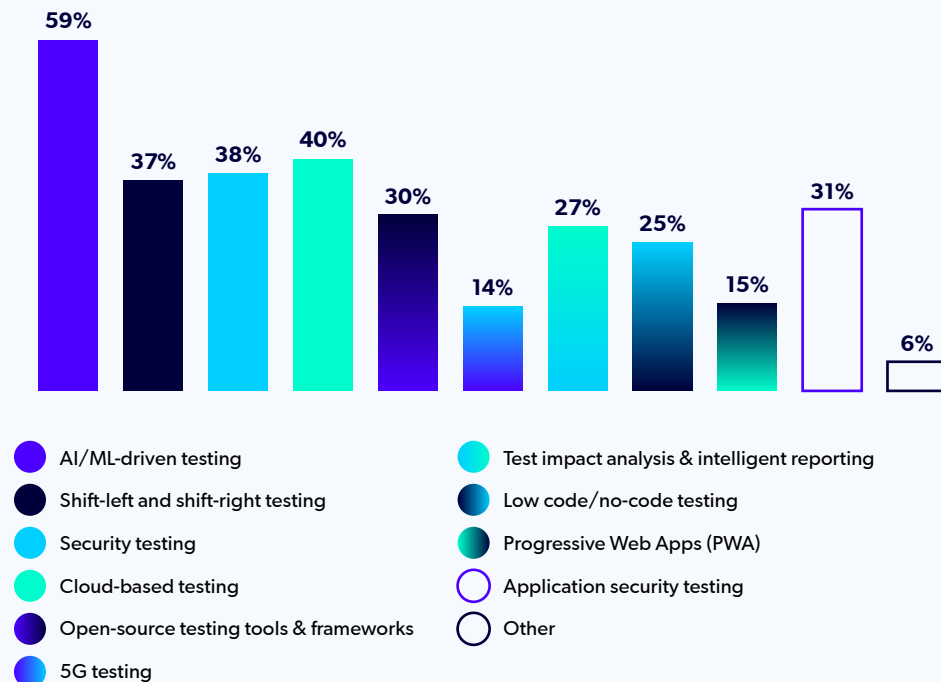
Our comprehensive quality solutions empower teams to embrace innovation, mitigate risks, and thrive in an ever-evolving landscape. This report is not just an analysis of trends—it’s a practical roadmap to help QA teams navigate the future with confidence and clarity.

# Adopting Artificial Intelligence in Testing

Artificial Intelligence (AI) has solidified its place as a game-changer in the testing industry, reshaping strategies throughout 2025. While initial adoption faced hesitations, AI has become indispensable, enabling teams to achieve unmatched efficiency, precision, and speed.

Over 75% of survey respondents identified AI-driven testing as a pivotal component of their strategy for 2025. This growing momentum reflects a clear shift toward embracing AI's transformative potential, with teams actively exploring how to integrate it into their workflows for maximum impact.

## Which of the following trends do you see impacting your testing strategy in 2025?



At Perforce, **BlazeMeter** and **Perfecto** lead the charge in AI-driven testing innovation, delivering solutions powered by four foundational pillars:

1. **Effortless Test Creation:** Simplify even the most complex tests with AI-driven templates and auto-generated test cases.
2. **Seamless Test Execution:** Execute large-scale tests with unprecedented consistency and reliability, minimizing bottlenecks.
3. **Instant Issue Analysis:** Harness real-time insights to pinpoint defects and determine root causes within seconds.
4. **Self-Sustaining Maintenance:** Reduce maintenance efforts with adaptive AI functionality that evolves alongside your applications.

AI isn't just advancing testing — it's redefining it. By leveraging the AI capabilities of **BlazeMeter** and **Perfecto**, QA teams can position themselves as industry leaders, driving innovation and ensuring excellence in an ever-changing landscape.

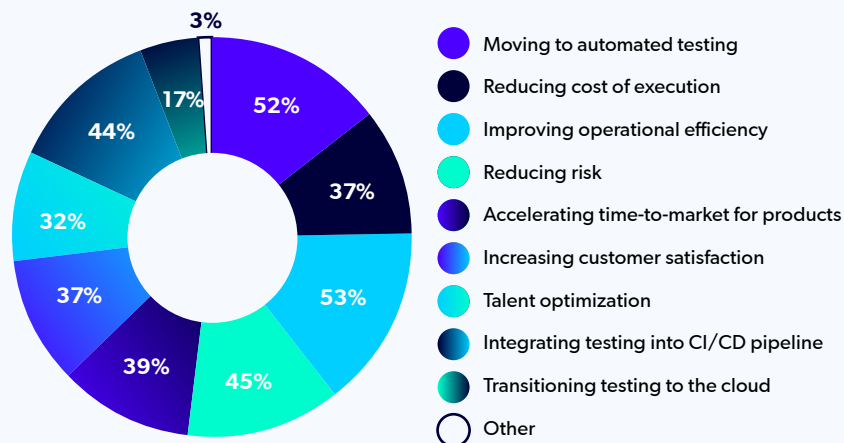
Testing experts share a "fireside" conversation discussing the future of testing with AI & ML.  
[View webinar >>>](#)

## Security Rises as a Priority

As organizations integrate AI-driven testing into their strategies, security has become a defining priority for QA teams. The adoption of shift-left testing methods has brought security testing to the forefront, embedding it as a critical step in identifying vulnerabilities early in the development lifecycle.

Nearly 50% of respondents cited evaluating software systems or network security to uncover vulnerabilities as a top priority for the next six to twelve months. This underscores the growing recognition of proactive security measures as a cornerstone of effective testing strategies.

### What are the top priorities for your organization in the next 6-12 months?



One key strategy for mitigating risk is the use of synthetic test data.

This approach enables teams to conduct seamless, comprehensive testing without relying on incomplete or sensitive real-world data. By adopting synthetic data, QA teams can protect sensitive information, ensure compliance, and maintain testing velocity—all while significantly reducing the risk of data breaches. Masking production data for testing can also safeguard sensitive information in non-production environments, while synthetic test data generation fills in gaps and allows targeted testing of specific scenarios.

By embracing both test **data masking and synthetic test data** generation, your company can strike the right balance between realism and security in test environments. You'll no longer be stuck in the traditional paradigm of "speed, cost, or quality; pick two". Your company can confidently accelerate software development lifecycles while upholding the highest standards of data security and compliance.

Security is no longer an afterthought. It is the foundation of trust, reliability, and success in today's fast-evolving digital landscape. To stay ahead, organizations must embed robust security testing into every stage of development and leverage innovative solutions like synthetic test data to safeguard their processes.



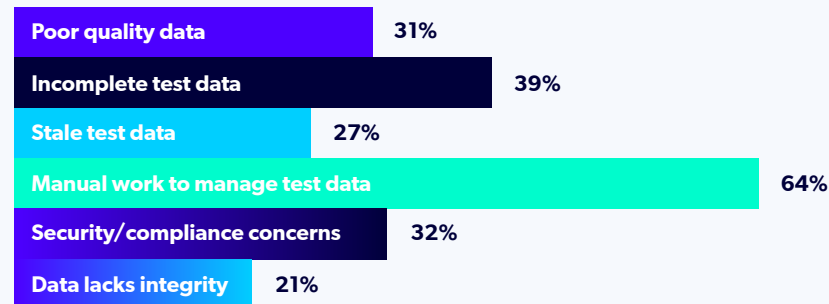
**Delphix is the leader in masking & provisioning test data — and now they're a part of Perforce's Continuous Testing suite. Learn more about [Delphix test data management >>>](#)**

## Test Data Management Poses a Major Hurdle

Test data is the critical fuel that powers the testing engine—its quality directly impacts the stability, reliability, and success of test execution. Without high-quality test data, testing efforts risk inefficiency, errors, and compromised results.

For many QA teams, test data management remains a significant challenge. Manual test data management, cited as the biggest hurdle by respondents, is resource-intensive, error-prone, and time-consuming. Additionally, issues like incomplete and poor-quality test data, coupled with security concerns, create further obstacles that hinder testing effectiveness and compliance.

### What challenges do you have around test data?



To overcome these challenges, solutions like Delphix combine test data masking with advanced data virtualization to transform how teams manage sensitive data. By discovering data subject to privacy laws, replacing it with realistic yet fictitious values, and instantly delivering masked, virtual data copies into testing environments, Delphix ensures compliance, safeguards data, and quickly provisions reliable, high-quality test data for QA teams.

Effective test data management is no longer optional—it is a critical foundation for driving efficiency, maintaining compliance, and achieving testing excellence. With the right tools and strategies, QA teams can turn test data challenges into opportunities for innovation and growth.

`</>` The future of testing is with BlazeMeter's [Test Data Pro](#).

## Accessibility and Inclusivity: Expanding Digital Boundaries

Accessibility testing has emerged as a strategic priority for QA teams, with 32% of respondents identifying it as a key focus. This trend reflects not only increasing regulatory demands but also a broader commitment to creating inclusive digital experiences that serve all users, including those relying on assistive technologies.

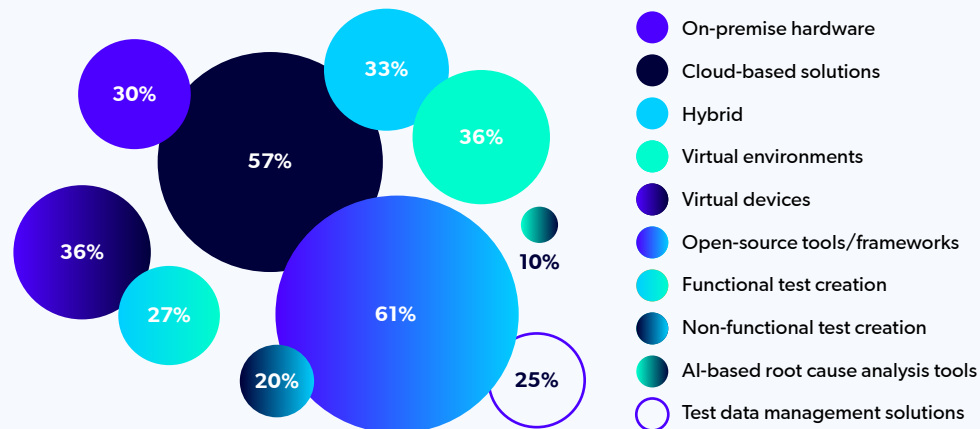
Tools like Perfecto are empowering teams to address these demands effectively. By enabling seamless accessibility testing, identifying gaps in compliance, and aligning with standards like WCAG, Perfecto ensures applications are both inclusive and compliant. Teams using Perfecto have reported up to a 15% improvement in accessibility compliance, reinforcing its role as a leader in accessibility testing solutions.

[Accessibility testing](#) is more than meeting legal requirements—it's a commitment to fostering inclusivity, driving user satisfaction, and positioning organizations as leaders in digital accessibility. By investing in robust accessibility strategies and tools like Perfecto, QA teams can expand their reach, improve usability, and create meaningful connections in an increasingly diverse digital landscape.

## The Importance of Testing Environment and Tool Flexibility

Flexibility in testing environments and tools is now essential for QA teams navigating today's dynamic development demands. Survey results revealed that more than 60% of respondents rely on open-source tools and frameworks, while cloud-based solutions emerged as the second most widely used approach.

### Which testing tools and environments do you primarily use?



Open-source tools like JMeter and Selenium have become staples in modern testing strategies. Their collaborative nature, driven by peer review and community contributions, ensures continuous innovation and adaptability. Open-source solutions are also cost-effective and versatile, allowing teams to tailor them to specific needs without the constraints of proprietary systems.

Cloud-based tools further enhance flexibility by enabling teams to scale seamlessly, collaborate across distributed environments, and access resources on demand. Together, open-source and cloud-based solutions form the backbone of agile, adaptable testing workflows.

BlazeMeter amplifies the power of open-source tools by integrating them with enterprise-grade features. With BlazeMeter, teams can enhance their testing capabilities through advanced security, unparalleled scalability, and time-saving automations. Comprehensive reporting and analytics provide deeper insights, enabling teams to optimize workflows and keep pace with modern development cycles.

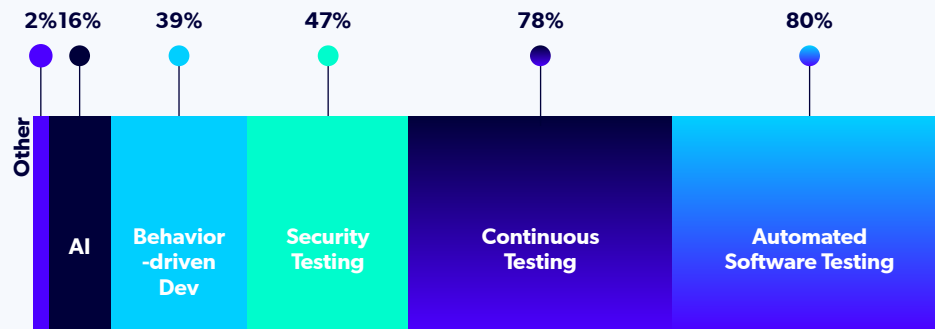
In a rapidly evolving industry, testing flexibility is no longer optional—it's the foundation of innovation and success. By adopting the right combination of open-source, cloud-based, and enterprise solutions, QA teams can position themselves to excel in any testing environment.

✓ Enjoy ultimate flexibility with BlazeMeter's FREE script converter. [Convert LoadRunner or SoapUI scripts instantly. >>>](#)

# Test Automation Becoming Standardized

Automated testing solidified its position as the most widely adopted QA practice in 2024, with **continuous testing** following closely behind. This trend reflects the industry's commitment to accelerating delivery cycles and improving software reliability.

## Which testing practices has your organization adopted?



Test automation remains central to quality assurance, with 87% of respondents identifying it as a critical focus area. Teams are increasingly implementing automated integration, system testing, and unit testing to streamline workflows and reduce errors. Organizations using BlazeMeter for automation have seen transformative results, such as a 30% reduction in post-deployment issues and faster release cycles.

Emerging methodologies like Behavior-Driven Development (BDD) and Test-Driven Development (TDD) are also gaining traction. Recognized by 66% and 58%

of teams respectively, these practices enable QA teams to align testing processes with real-world scenarios and user expectations. However, adoption barriers like complexity and team readiness may explain their slower integration.

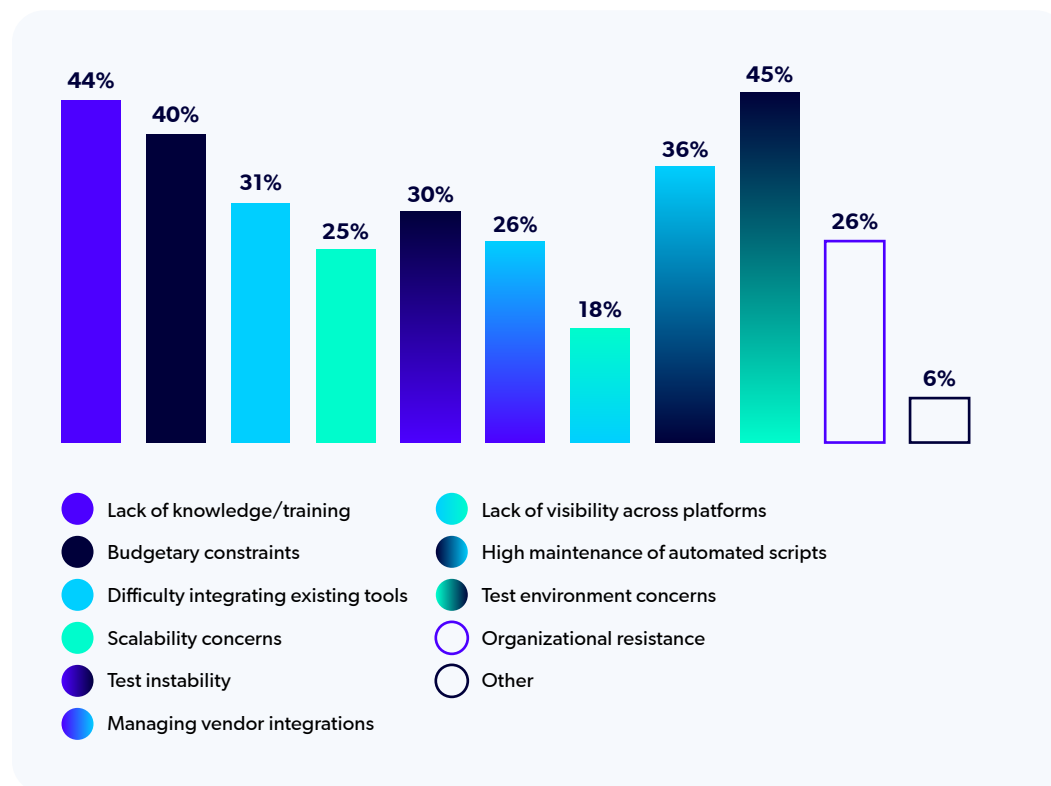
BlazeMeter's continuous testing platform empowers teams to adopt an agile, scalable approach tailored to their unique workflows and timelines. By standardizing automation and integrating emerging practices like BDD and TDD, QA teams can achieve new levels of innovation and deliver superior quality across every stage of development.


100% - amount of automated testing Deckers utilizes with BlazeMeter to support faster releases [View Case Study >>>](#)

## But Test Automation Challenges Remain

As test automation adoption continues to grow, teams are encountering hurdles that can slow progress and limit the full realization of its benefits. These challenges, while significant, are not insurmountable with the right strategies and tools.

### What are the main challenges or hurdles you face in testing or advancing test automation?



 Discover the secrets to solving the toughest mobile testing challenges. [Get eBook >>>](#)

The most common obstacles reported by survey respondents include:

- **Test Environment Concerns:** Managing test data, enabling service virtualization, and configuring virtual devices remain complex tasks that can hinder automation efforts.
- **Lack of Knowledge or Training:** Nearly half of teams report struggling to upskill, creating a gap between automation potential and execution.
- **Budgetary Constraints:** Tight budgets limit access to advanced tools and platforms, slowing the pace of automation scalability.

To navigate these challenges:

**Optimize Test Environments:** Tools like BlazeMeter simplify service virtualization, enable seamless test data management, and support virtual device configurations, making automation workflows more efficient.

**Invest in Team Development:** Providing access to training programs, certifications, and hands-on experience with automation tools empowers teams to maximize their potential.

**Demonstrate ROI for Buy-In:** Highlighting measurable outcomes like reduced post-deployment issues, faster release cycles, and improved scalability can help secure additional resources and budget for automation initiatives.

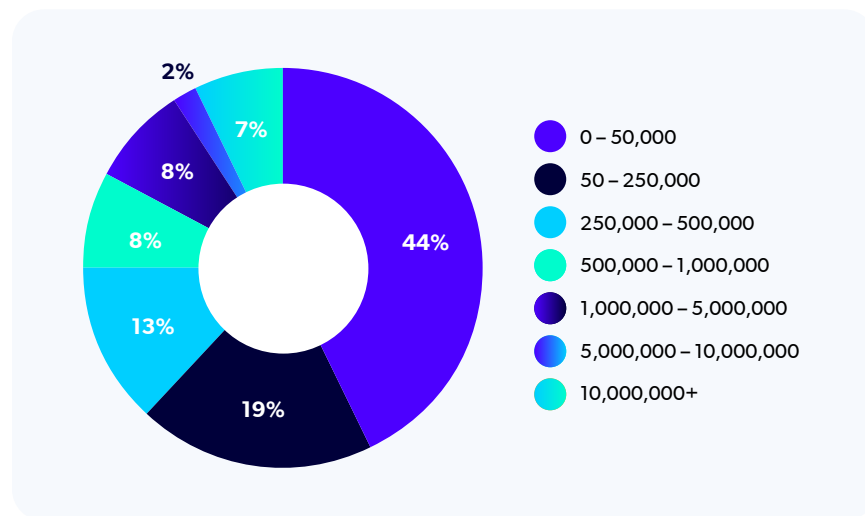
Test automation is a transformative journey, and overcoming challenges is a vital step toward achieving its full potential. By addressing these hurdles strategically, teams can drive innovation, efficiency, and higher-quality outcomes across the development lifecycle.

## Navigating Limited Resources

Budgetary and resource constraints remain persistent challenges for QA and testing teams. The ability to do more with less has become a defining necessity in the software development landscape.

In fact, an overwhelming majority of respondents reported their 2025 testing budgets as \$50,000 or less. This highlights the critical need for cost-effective tools and strategies that maximize value without compromising quality.

### What is your budget for 2025 in US dollars approximately?



Here's how QA teams can optimize testing within limited budgets:

### Adopt Cloud-Based Testing

By replacing expensive on-premises infrastructure with scalable, on-demand cloud solutions, teams can expand testing efforts while keeping costs manageable.

### Focus Test Automation on High-Impact Areas

Prioritize automation for tasks like regression testing to save time and resources. BlazeMeter's automation tools streamline workflows, reducing time-to-market and improving efficiency.

### Upskill Your Team

Affordable training and certifications empower teams to maximize tool capabilities, reducing inefficiencies caused by skill gaps.

### Select ROI-Driven Tools

Choose tools that deliver measurable outcomes. For example, BlazeMeter enables teams to cut post-deployment issues by 30% to ensure budget spend translates to tangible results.

Resource constraints don't have to limit quality. By prioritizing cost-effective strategies and tools, QA teams can overcome budgetary challenges and consistently deliver high-value outcomes.

## What Does All This Mean? Actionable Insights for Continuous Quality Success

### Test Automation as a Cornerstone

Test automation continues to be the backbone of modern QA strategies, with 80% of survey respondents identifying it as a critical focus area. Its widespread adoption across integration, system, and unit testing reflects its versatility in addressing diverse testing needs.

Tools like BlazeMeter help teams overcome common challenges—such as resource constraints and complex workflows—while unlocking the full potential of automation by enabling them to:

## Achieve Faster Test Cycles

BlazeMeter users have reported a 30% reduction in post-deployment issues, streamlining releases and improving reliability.

## Automate Cross-Platform and API Testing

BlazeMeter supports seamless testing across diverse environments and complex integrations, enhancing test coverage and accuracy.

Practices like BDD and TDD enable teams to align testing with real-world user scenarios and product goals, fostering a deeper connection between development and quality assurance. For instance, using BDD to define test cases collaboratively can reduce misunderstandings and improve alignment with customer needs.

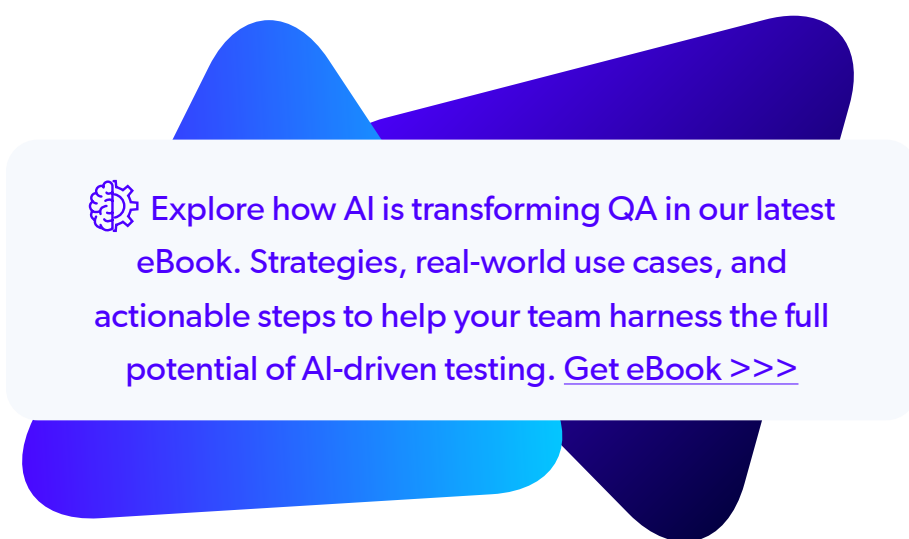
While test automation offers immense benefits, implementing it effectively requires the right tools, strategies, and collaboration. By leveraging platforms like BlazeMeter and adopting methodologies like BDD and TDD, QA teams can streamline workflows, enhance collaboration, and drive meaningful outcomes.


## AI-Driven Efficiency in QA

AI is reshaping QA practices, unlocking new levels of efficiency, accuracy, and speed. With 37% of respondents actively exploring AI's potential and 13% already fully implementing AI-driven tools, the adoption of AI in testing is steadily gaining momentum.

Teams that integrate AI into their workflows report tangible benefits, including:

- **20% Reduction in Manual Testing Efforts:** By automating repetitive tasks like test case generation and execution, AI accelerates time-to-market and allows teams to focus on strategic initiatives.
- **Enhanced Defect Detection and Predictive Analytics:** AI tools identify defects earlier and provide predictive insights into potential failures, reducing debugging cycles and ensuring greater reliability.



 Explore how AI is transforming QA in our latest eBook. Strategies, real-world use cases, and actionable steps to help your team harness the full potential of AI-driven testing. [Get eBook >>>](#)

As AI evolves, its potential to transform QA will only grow. Forward-thinking teams that embrace AI now will not only streamline their processes but also position themselves to deliver faster, higher-quality software in an increasingly competitive market.

## Accessibility and Inclusivity


Accessibility testing has evolved into a strategic priority for organizations seeking to deliver inclusive and user-friendly digital experiences.

With 32% of respondents identifying accessibility as a focus area, there is growing recognition of its importance in compliance and beyond.

Perfecto empowers QA teams to make accessibility a core part of their testing strategy by enabling them to:

- **Expand Their User Base by Up to 15%:** Inclusive applications reach broader audiences, fostering engagement and improving customer satisfaction.
- **Automate Compliance Checks:** Perfecto supports global accessibility standards, such as WCAG and ADA, automating testing to ensure compliance while accelerating delivery timelines.

Accessibility is no longer just a technical requirement—it is a business advantage that builds trust, strengthens brand loyalty, and opens doors to new markets. By leveraging tools like Perfecto, QA teams can seamlessly integrate accessibility into their workflows, ensuring that every release meets both user expectations and regulatory standards.

 **Unlock testing for everyone — regardless of skill level. [View the webinar to find out how.](#)**

*Is your team ready to prioritize accessibility? Explore Perfecto's capabilities to take your inclusivity efforts to the next level.*

## Cloud-Based Scalability

Cloud-based solutions have become a cornerstone for QA teams seeking scalable, efficient testing. With 57% of respondents leveraging cloud-based tools, these solutions are enabling organizations to meet the demands of modern development cycles.

Key benefits of cloud-based testing include:

- **Seamless Collaboration Across Distributed Teams:** Cloud platforms facilitate real-time communication and coordination, ensuring productivity regardless of location.
- **Integration with CI/CD Pipelines:** By embedding testing into continuous integration and delivery workflows, teams can accelerate test cycles and improve release reliability.
- **Cost-Effectiveness and Flexibility:** Cloud-based tools eliminate the need for expensive on-premises infrastructure and allow for dynamic scaling based on testing requirements.

BlazeMeter, as part of Perforce's Continuous Testing suite, enhances cloud-based scalability by offering:

- **On-Demand Test Environments:** Instantly available environments reduce delays and streamline workflows.
- **Flexible Scaling:** From a handful of users to millions, BlazeMeter handles any test size, ensuring realistic performance insights.
- **Comprehensive Analytics:** Real-time data visualizations and actionable insights drive informed decision-making and continuous improvement.

While cloud-based solutions provide immense advantages, teams must also navigate challenges such as security and cost management. Tools like BlazeMeter address these concerns with robust data protection and flexible pricing, ensuring QA teams achieve scalability without compromise.

Cloud-based scalability isn't just an advantage—it's essential for staying competitive in today's agile, fast-paced development landscape. With the right tools, organizations can ensure speed, efficiency, and reliability at scale.

## Emerging Practices

Emerging practices like chaos engineering are reshaping the way QA teams approach system reliability. According to the survey, 22% of respondents have adopted chaos engineering, reflecting its growing importance in creating resilient systems capable of thriving under real-world conditions.

Chaos engineering involves intentionally introducing controlled disruptions to systems to uncover weaknesses and improve reliability. Teams that adopt this practice gain key advantages:

- **Enhanced Resilience:** By identifying and addressing vulnerabilities, systems are better equipped to handle failures and maintain performance under stress.
- **Increased Confidence in Production:** Testing how systems respond to high-demand or unexpected disruptions ensures stability during critical scenarios.

Tools like BlazeMeter and Perfecto play a pivotal role in chaos engineering by:


- Simulating high-load and edge-case scenarios.
- Providing actionable insights into system performance and vulnerabilities.
- Supporting seamless integration with existing CI/CD workflows to ensure disruptions are tested efficiently.

While chaos engineering offers immense benefits, teams must also navigate challenges like the need for skilled personnel and carefully controlled experiments to avoid unintended disruptions. By leveraging the right tools and strategies, organizations can integrate chaos engineering effectively and strengthen their systems against future challenges.

As organizations prioritize resilience and reliability, chaos engineering will remain a cornerstone of quality assurance strategies, empowering teams to deliver robust, high-performing applications in today's dynamic digital landscape.

## Challenges in Test Data and Analytics

Test data management continues to be a significant hurdle for QA teams, with 45% of respondents identifying compliance and availability as key challenges. In today's complex testing environments, ensuring secure and realistic test data is essential for maintaining regulatory compliance and achieving accurate results.

 **Discover how to get the most out of your test data with Delphix + BlazeMeter. [View webinar >>>](#)**


Perforce's Delphix solution addresses these challenges by:

## Automating Secure Test Data Delivery

By automating data provisioning and masking sensitive information, Delphix accelerates test data delivery by 100x, freeing teams to focus on high-impact testing activities. This enables teams to accelerate release velocity by 2x while staying in compliance with privacy laws such as GDPR and CCPA.

## Delivering Realistic Test Environments

Delphix enables QA teams to create environments that accurately mimic production, improving test reliability and eliminating defects in business-critical releases.

 **Mizuho Securities leverages DevOps test data management to transform application development while enabling compliance.**  
[Check out the case study >>>](#)

In an era of increasing regulatory scrutiny and fast-paced development cycles, test data challenges cannot be ignored. Solutions like Delphix are essential for automating critical processes, ensuring data integrity, and driving efficiency in QA workflows.

Is your team ready to automate the delivery of high-quality, compliant test data into DevOps pipelines? [Explore Delphix's capabilities](#) to accelerate your QA journey.

## Driving ROI Through Automation Investments

Automation remains a cornerstone of QA efficiency, delivering both immediate and long-term cost savings. Survey findings reveal that 64% of respondents achieved over 20% cost savings through automation, with organizations adopting automation for five years or more reporting up to 50% savings. This highlights the transformational impact of automation on QA workflows and budgets.

Key trends from the survey include:

- **Significant Cost Savings:** Automation delivers measurable financial benefits, enabling teams to redirect resources toward innovation and scalability.
- **Increased API Testing Investments:** With 38% of respondents planning additional investments in API testing, the focus is shifting toward ensuring seamless integrations and system reliability in modern applications.

Perforce's suite of tools empowers QA teams to maximize automation's ROI by:

- **Streamlining Test Cycles:** BlazeMeter's robust automation features reduce manual testing efforts, shorten test execution times, and enable faster releases.
- **Enhancing API Testing Efficiency:** BlazeMeter provides comprehensive API testing capabilities, ensuring integrations are reliable and high-performing.
- **Accelerating Test Data Delivery:** Delphix automates secure, compliant test data provisioning, accelerating data delivery to QA teams by 100x.
- **Optimizing Test Data Management:** Delphix automates secure test data provisioning, cutting preparation time by 25% and ensuring compliance with global privacy laws.

While automation offers clear advantages, teams must also address upfront challenges such as tool adoption and training. Perforce's integrated solutions simplify this process, ensuring organizations can quickly realize the benefits of automation and maintain their competitive edge.

*Is your team unlocking the full potential of automation? Explore [Perforce's suite of tools](#) to optimize your QA strategy and drive innovation.*

## Now What? Next Steps for Quality Leaders

To remain competitive and agile, quality leaders must tackle today's challenges while building a robust foundation for future growth. These actionable recommendations provide a roadmap to optimize QA strategies, drive innovation, and maximize ROI.

### 1. Scale Test Automation and AI Adoption

**Start Small and Scale Gradually:** Begin with automating repetitive tasks like regression testing to establish confidence and ROI. Expand into integration and system testing as automation capabilities mature.

**Leverage Perforce Solutions:** Tools like BlazeMeter and Perfecto streamline automation workflows, integrate with CI/CD pipelines, and enable early adopters to achieve up to 30% faster test cycles.

**Upskill Your Teams:** Bridge skill gaps by investing in targeted training. Perforce provides webinars, online courses, and certifications to help teams rapidly adopt AI-driven tools and frameworks.

### 2. Improve Test Coverage and Accessibility

**Prioritize API and Functional Testing:** With 38% of respondents planning API testing investments, automation can streamline validations and ensure comprehensive test coverage.

**Expand Accessibility Testing:** Perfecto's AI-driven tools help teams meet global compliance standards while broadening their user base. Customers using Perfecto have achieved a 15% increase in accessibility compliance.

### 3. Optimize Resources and Infrastructure

**Adopt Cloud-Based Solutions:** With 57% of respondents leveraging cloud environments, hybrid setups enable scalable testing and seamless cross-team collaboration. Perforce's cloud-enabled tools integrate efficiently into distributed workflows.

**Reduce Manual Test Data Efforts:** Delphix automates test data creation and provisioning, accelerating delivery by 100x while ensuring compliance with data privacy regulations like GDPR.

### 4. Embrace Emerging Practices and Trends

**Implement Chaos Engineering:** Simulate real-world failures to uncover vulnerabilities and improve system robustness. For example, using BlazeMeter to replicate high-load scenarios can help validate system reliability.

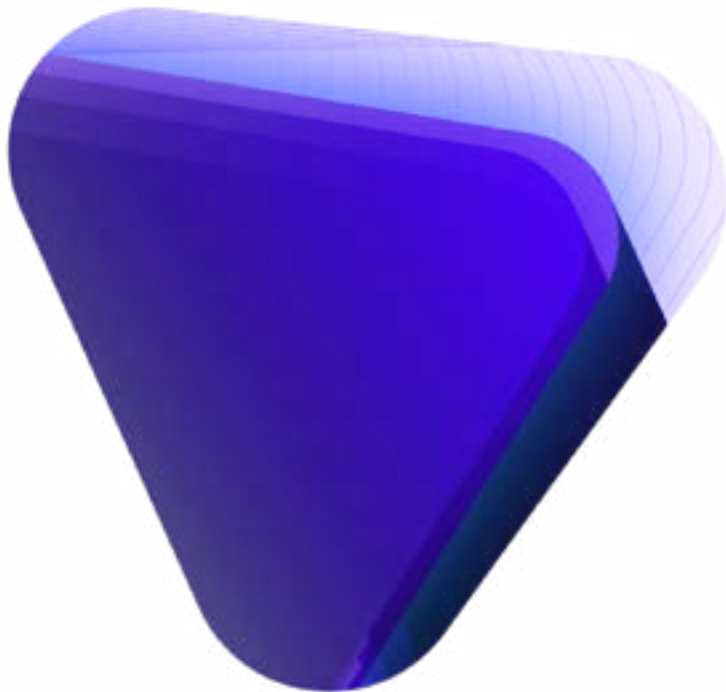
**Utilize AI Analytics:** With 38% of teams adopting data-driven insights, AI-powered analytics can identify bottlenecks, optimize test execution, and improve defect detection.

## 5. Drive Long-Term ROI Through Strategic Investments

**Focus on High-Impact Areas:** Invest in AI-assisted test creation and scriptless automation to streamline testing and reduce costs. Organizations report up to 50% cost savings after five years of continuous automation use.

**Monitor and Measure Success:** Use KPIs like test coverage, defect detection rates, and release cycle durations to evaluate automation investments. Visualization tools within BlazeMeter and Perfecto can help track these metrics effectively.

By following these steps, quality leaders can build a scalable, efficient QA strategy that not only addresses today's challenges but also drives long-term innovation and measurable results.



## Software Testing Predictions for 2025

### AI-Driven Test Automation Gains Dominance

AI adoption in QA is accelerating rapidly, with 75% of survey respondents showing interest in or actively researching AI-driven tools. This trend highlights the growing reliance on AI to optimize workflows and elevate software quality in an increasingly competitive landscape.

AI-driven test automation is transforming QA by enabling:

- **Smarter Script Creation:** AI tools generate test cases from user stories, logs, and historical defects, reducing manual scripting time significantly.
- **Dynamic Self-Healing:** Tests automatically adapt to application changes, minimizing maintenance and ensuring uninterrupted test cycles.
- **Proactive Defect Detection:** Predictive analytics identify potential issues earlier in the pipeline, reducing debugging time and improving overall release quality.

### Practical Implication

To stay competitive, organizations must invest in AI-enabled platforms that deliver measurable efficiencies. Tools like BlazeMeter and Perfecto empower teams to:

- Automate complex test scenarios with precision.
- Adapt to application changes in real time.
- Leverage actionable insights to improve defect resolution and enhance overall test accuracy.

AI-driven test automation is no longer a luxury—it's a necessity for QA teams seeking to drive innovation, efficiency, and agility. By embracing AI, organizations can future-proof their QA strategies and maintain a competitive edge in 2025 and beyond.

## Shift-Left and Shift-Right Testing Achieve Balance

Security has emerged as a top organizational priority. QA teams are embracing a balanced approach that integrates Shift-Left (early testing) and Shift-Right (real-time production testing) practices. This convergence creates a seamless quality management strategy, addressing issues proactively in development while ensuring performance and reliability in production.

By combining these approaches, teams can:

- **Strengthen Security:** Detect vulnerabilities early by embedding robust security checks into the development pipeline.
- **Enhance Feedback Loops:** Leverage real-time production testing to gather actionable user insights and validate performance under live conditions.
- **Unify Development and Operations:** Foster collaboration across teams by integrating testing workflows into continuous integration and delivery pipelines.

## Practical Implication

Perforce Continuous Testing solutions enable organizations to execute this dual approach effectively:

- **Shift-Left with AI-Powered Security:** Tools like BlazeMeter automate vulnerability detection and compliance checks, ensuring secure development workflows.

- **Shift-Right with Real-Time Monitoring:** Perfecto provides tools for simulating real-world usage and analyzing performance under live conditions.
- **Unified Analytics for Holistic Insights:** Centralized dashboards connect pre-production and production testing data, creating a continuous feedback loop that accelerates decision-making and optimizes quality.

This balanced approach ensures that security, quality, and user satisfaction are addressed comprehensively throughout the software lifecycle, enabling teams to deliver resilient, high-performing applications.



## Test Automation Becomes Standard

In 2024, automated software testing solidified its position as the most widely adopted QA practice, underscoring its critical role in modern development workflows. Nearly 70% of survey respondents reported they are already invested in or planning to adopt test automation solutions within the next 6-12 months, highlighting the industry's shift toward faster, more reliable testing processes.

Automation delivers transformative benefits by enabling teams to:

- **Accelerate Test Cycles:** Automating repetitive and time-consuming tasks reduces testing timelines, ensuring faster and more frequent releases.

- Enhance Consistency and Coverage: Automated tests minimize human error and improve coverage across diverse and complex environments.
- Integrate Seamlessly with Agile Workflows: Automated testing supports CI/CD pipelines, enabling teams to iterate and deploy quickly without compromising quality.

## Practical Implication

Tools like BlazeMeter and Perfecto empower organizations to scale automation with features designed for efficiency and accessibility:

- Scriptless Automation: Intuitive no-code interfaces allow both technical and non-technical team members to build automated tests, fostering collaboration.
- Cross-Platform Testing: Perfecto enables scalable testing across web, mobile, and IoT platforms, ensuring consistent application performance.
- Real-Time Insights: BlazeMeter offers actionable analytics and reporting, helping teams optimize testing processes and address bottlenecks proactively.

As test automation becomes standard, organizations that invest in scalable, user-friendly tools will gain a competitive edge. By reducing manual effort, improving quality, and accelerating delivery, automation is no longer optional—it is essential for thriving in today's fast-paced development landscape.

## IoT and Edge Computing Expand Testing Complexity

The adoption of IoT (Internet of Things) and edge computing is transforming industries but also introducing new layers of complexity to QA workflows. As organizations integrate more connected devices and decentralized architectures, QA teams must manage real-time, high-volume data testing across diverse devices, networks, and geographies.

These emerging technologies require tools capable of addressing:

- Real-World Simulation: Testing must replicate IoT challenges, such as variable connectivity, fluctuating latencies, and distributed data processing across edge systems.
- High-Volume Data Validation: IoT systems generate massive amounts of data, demanding real-time analysis to ensure accuracy, security, and performance.
- Cross-Device Compatibility: Ensuring seamless integration and functionality across various IoT devices and platforms is critical for maintaining user satisfaction.

## Practical Implication

BlazeMeter's distributed cloud capabilities empower QA teams to meet these demands by:

- Simulating Complex IoT Scenarios: BlazeMeter enables realistic testing of IoT workloads, such as device-to-cloud communication and edge data processing.
- Handling Distributed Testing: The platform supports geographically dispersed environments, ensuring consistent performance across global systems.
- Scaling for High-Traffic Systems: BlazeMeter provides performance testing for high-volume IoT networks, validating system resilience and scalability under load.

IoT and edge computing adoption are accelerating, which means QA teams must prepare for the increased complexity these systems introduce. By leveraging tools like BlazeMeter, organizations can confidently navigate the challenges of real-time data, distributed architectures, and device compatibility, ensuring their systems deliver secure, seamless, and reliable user experiences.

*Is your team ready to tackle IoT testing? Explore BlazeMeter's capabilities to future-proof your QA strategy. [Request custom BlazeMeter demo>>>](#)*

## Cybersecurity Becomes Integral to Testing

Digital threats continue to grow increasingly sophisticated. That's why security testing has become one of the top three practices adopted by QA teams. Organizations are now embedding security into every stage of development and testing, reflecting a significant shift toward DevSecOps. This approach ensures that reducing security and compliance risks is not a reactive process but an integral part of software delivery.

Integrating cybersecurity into QA workflows enables teams to:

- **Detect Vulnerabilities Early:** Proactively identify weaknesses in APIs, data processing, and user authentication systems before they reach production.
- **Ensure Compliance:** Validate adherence to standards such as GDPR, HIPAA, and ISO 27001 to mitigate risks of regulatory fines.
- **Safeguard Sensitive Data:** Strengthen defenses against breaches, ensuring user trust and system integrity.

## Practical Implication

BlazeMeter and Perfecto empower QA teams to seamlessly incorporate security testing into their workflows:

- **BlazeMeter's API Testing:** Automate the validation of API security, detecting common vulnerabilities such as misconfigurations and unauthorized access points.
- **Perfecto's Device Lab:** Test security across diverse devices and operating systems under real-world conditions, ensuring end-to-end protection.
- **Unified Reporting and Insights:** Both tools offer centralized dashboards to prioritize vulnerabilities, track compliance metrics, and streamline remediation efforts.

Organizations should adopt tools and strategies that embed security into every phase of testing. By proactively addressing vulnerabilities and ensuring compliance, teams can deliver secure, high-quality applications that meet the demands of today's security-conscious users

*Ready to secure your testing workflows? Discover how BlazeMeter and Perfecto can help future-proof your applications. [Request demo>>>](#)*

## Low-Code/No-Code Platforms Level the Testing Playing Field

While QA teams strive to expand automation, knowledge and training gaps remain significant barriers. Survey findings highlight these challenges as a primary impediment to broader adoption, especially among non-technical contributors. Low-code/no-code platforms are reshaping this dynamic by enabling users of all skill levels to actively participate in test automation efforts.

These tools simplify automation by:

- **Streamlining Test Creation:** Drag-and-drop interfaces and prebuilt templates allow non-technical users to design and execute automated tests quickly and accurately.

- **Minimizing Training Needs:** Teams can onboard contributors faster without requiring extensive coding expertise, reducing resource strain.
- **Boosting Collaboration:** Cross-functional teams, including business analysts and QA specialists, can work together seamlessly, improving test coverage and aligning testing with organizational goals.

## Practical Implication

Perforce Continuous Testing’s scriptless solutions, such as BlazeMeter and Perfecto, enable organizations to scale automation efficiently:

- **Perfecto’s Low-Code Functional Testing:** Extends automation across web, mobile, and IoT platforms, ensuring consistency and reliability with minimal technical input.
- **Accelerated Results:** Perforce’s tools reduce the learning curve, allowing teams to scale automation rapidly and achieve faster ROI.

 6x faster test results

Discover how a major Australian bank accelerated releases while reducing risk. [View Case Study >>>](#)

QA teams can overcome traditional barriers with no-code/low-code testing and unlock new levels of efficiency and collaboration. By leveraging BlazeMeter and Perfecto, organizations can empower their teams to innovate, adapt, and scale automation effortlessly.

Is your team ready to embrace scriptless testing? Explore Perforce’s solutions to transform your automation strategy. [Try Scriptless testing for FREE>>>](#)

Managing test data has emerged as a top challenge for QA teams, with poor-quality data and security risks frequently cited in the survey as major roadblocks. As organizations increasingly face compliance pressures and strive for high-quality software, addressing these issues is no longer optional—it’s essential for ensuring reliable and secure testing environments.

Key test data challenges include:

- **Data Quality Issues:** Incomplete, outdated, or irrelevant data compromises test accuracy, leading to missed defects and unnecessary rework.
- **Security and Privacy Risks:** Handling sensitive customer data during testing exposes organizations to potential breaches and regulatory non-compliance.
- **Resource Bottlenecks:** The manual effort required to prepare test data diverts resources from core testing activities, slowing down the release cycle.

AI-driven tools are changing the landscape of test data management by providing:

- **Synthetic Data Generation:** AI creates realistic, non-sensitive test data that mimics production environments, addressing both quality and compliance concerns.
- **Automated Data Masking:** Sensitive data is automatically identified and masked, ensuring security and privacy without impacting testing accuracy.

## Practical Implication

Perforce offers powerful solutions to address these challenges:

- **BlazeMeter's Synthetic Data Capabilities:** Enable teams to create diverse, production-like test data sets that reflect real-world scenarios while adhering to data privacy regulations.
- **Delphix's Data Masking Tools:** Automatically discover and mask sensitive data, ensuring compliance with global standards like GDPR while reducing data preparation time by 25%.

With data privacy and management taking center stage in QA, organizations must adopt tools that address both data quality and security simultaneously. By integrating BlazeMeter and Delphix into their workflows, teams can reduce the risks associated with poor-quality data and security vulnerabilities, ensuring faster, compliant, and more reliable testing processes.

Ready to tackle your test data challenges? [Explore BlazeMeter and Delphix](#) to optimize your data management and security strategies today.

## Conclusion

The 2025 State of Continuous Testing survey highlights the rapid evolution of software testing. Emerging trends like the growing complexity of IoT and edge computing, combined with the rise of low-code/no-code platforms, are reshaping how teams approach testing. These shifts present both significant challenges and exciting opportunities for QA teams.

The increased focus on cybersecurity and test data management reinforces the need for integrated, intelligent solutions to mitigate risks and ensure compliance. Tools like BlazeMeter for synthetic test data and Delphix for data masking are essential in overcoming these challenges and ensuring secure, reliable test environments.

Additionally, AI-powered tools such as BlazeMeter and Perfecto by Perforce are driving a paradigm shift in the industry by optimizing script creation, improving defect detection, and enhancing test accuracy. These solutions are already helping teams scale automation and improve efficiency in ways that were previously unattainable.

Looking ahead, software developers and QA practitioners must prioritize innovative testing approaches to remain competitive. By integrating AI, strengthening test data management, and embedding security into every phase of testing, teams can enhance efficiency, reduce risks, and deliver exceptional software at scale.

Now is the time to invest in scalable, intelligent solutions that can meet the increasing demands of modern development. Embrace these tools to future-proof your testing workflows and drive sustained success in the evolving digital landscape.

## Behind the Data: Methodology and Demographics

### Methodology

This report is based on insights gathered from a survey conducted by Perforce to explore the state of continuous testing. The survey was designed to capture trends, challenges, and opportunities in software quality assurance.

## Survey Details

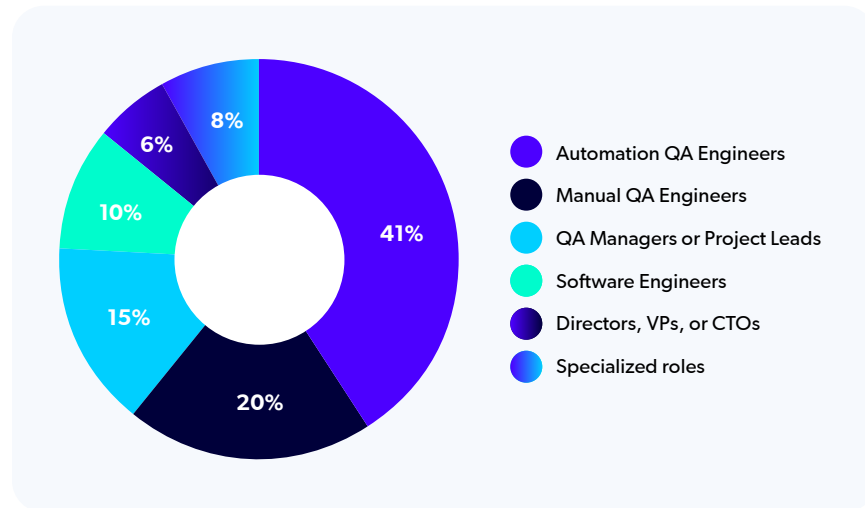
- Respondents: 204 professionals.
- Questions: 20, covering critical topics such as:
  - The adoption and impact of test automation.
  - AI-driven testing and its role in optimizing workflows.
  - Challenges in test data management and scalability.
  - Trends in cloud-based testing and accessibility compliance.

The survey targeted QA professionals, software developers, and DevOps engineers globally, ensuring a diverse and representative dataset.

## Participant Demographics

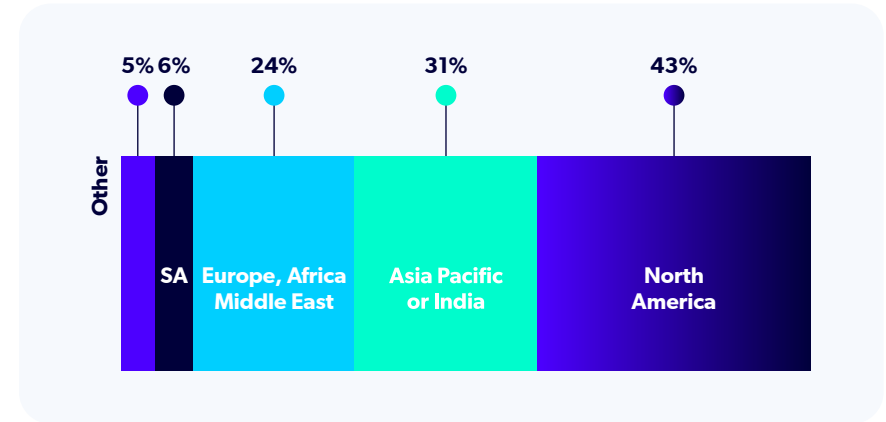
### Roles of Respondents

The survey received responses from professionals in key software development and quality assurance roles:



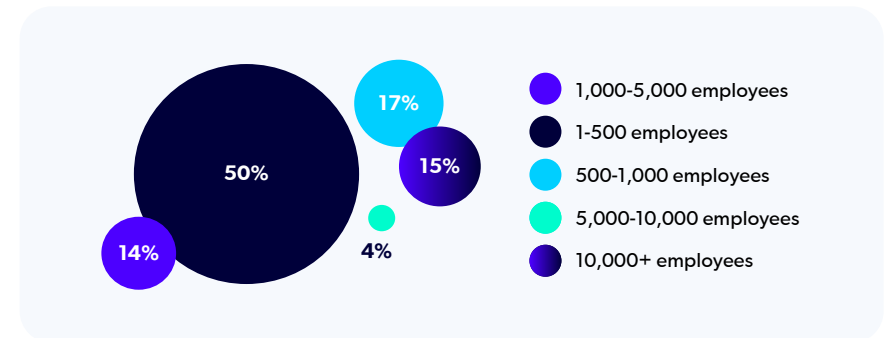
## Geographic Distribution

Participants were distributed across key global regions:



## Industry Representation

Respondents came from a diverse range of industries, classified by organization size:



## Acknowledgments

We sincerely thank the professionals who participated in this survey. Their insights were pivotal in shedding light on the evolving landscape of QA and continuous testing, providing valuable data that drives this report forward.

This report was made possible through the collective efforts of Perforce teams at BlazeMeter, Perfecto, and Delphix. Together, we are committed to pushing the boundaries of innovation and empowering QA teams to achieve sustained excellence in their testing efforts.

## Perforce Continuous Testing Solutions: Simplified, Scalable, and Secure

Perforce empowers QA teams with innovative tools — BlazeMeter, Perfecto, and Delphix —designed to streamline workflows, improve quality, and accelerate delivery timelines.



### Empowers Scalable and Fast Testing

- Performance testing to simulate real-world user loads.
- Seamless automation to shorten testing cycles.
- Flexible integration with hybrid and cloud environments.



### Ensures Flawless Digital Experiences

- Comprehensive testing across functional, performance, and accessibility needs.
- Global device coverage to validate applications on any device or browser.
- Streamlined compliance processes for accessibility standards.



### Transforms Test Data Management

- Faster access to test data for quicker dev/test cycles.
- Secure data masking to ensure regulatory compliance.
- High-quality data delivered at the right time to shift testing to the left.

## Why Choose Perforce?

- Unified Solutions: Integrate automation, accessibility, and secure data management seamlessly.
- Global Leadership: Trusted by top enterprises to deliver cutting-edge testing tools.
- End-to-End Integration: Works across your favorite CI/CD pipelines and DevOps tools.

### Ready to Accelerate Your QA Journey?

Take the first step toward simplified workflows, higher-quality releases, and faster delivery. Schedule your custom demo now to experience the future of continuous testing!

[Schedule Custom Demo >>](#)